

تمهيد زراعة نخاع العظم: تدخل متعدد التخصصات آمن وواعد بتحسين النتائج

تأليف

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and knowing that your best chance of (سرطان الدم) Imagine facing a life-threatening illness like leukemia survival involves a complex, physically demanding procedure - a stem cell transplant (زراعة الخلايا الجذعية). The thought alone can be overwhelming. But what if, *before* that transplant, you could proactively strengthen your body and mind, preparing yourself for the challenges ahead? This is the question researchers in Australia set out to answer

منهجية البحث

Researchers at an unnamed institution conducted a pilot study involving 19 patients diagnosed with either acute myeloid leukemia (AML - نوع حاد من سرطان الدم) or myelodysplastic syndromes (MDS - مجموعة من اضطرابات نخاع العظام) who were scheduled to undergo allogeneic hematopoietic stem cell transplant (allo-HSCT - زراعة الخلايا الجذعية من متبرع). This type of transplant replaces diseased bone marrow with healthy "stem cells from a donor. The study, which ran from June 2023 to July 2024, focused on a "prehabilitation approach. Unlike traditional rehabilitation which begins *after* treatment, (إعادة تأهيل قبل الجراحة) prehabilitation aims to improve a patient's physical and psychological health *before* a major medical intervention.

The prehabilitation program wasn't a single activity, but a comprehensive, multidisciplinary intervention. It integrated expertise from several fields: exercise physiology (علم وظائف الأعضاء الرياضية), (العلاج الطبيعي), dietetics (علم التغذية), occupational therapy (العلاج الوظيفي), psychology (علم النفس), and social work (الخدمة الاجتماعية). Patients were offered an 8-week program tailored to their individual needs, focusing on exercises to build strength and endurance, nutritional guidance, strategies to manage stress and anxiety, and support to address potential social and financial challenges. Researchers carefully tracked how many patients enrolled, how consistently they participated, and their overall satisfaction with the program. They also meticulously monitored for any adverse events related to the prehabilitation itself (أحداث سلبية).

النتائج

Of the 27 patients initially considered, 19 (approximately 70.4%) agreed to participate. Unfortunately, one patient had to withdraw due to a worsening of their medical condition. Eleven participants successfully completed the full 8-week program, while seven completed between 3 and 7 weeks before their transplant. Importantly, adherence to the program was high, with patients completing an average of 79.3% of (الالتزام) their scheduled sessions. Feedback from participants indicated a positive experience across all disciplines involved.

The study demonstrated a strong safety profile. There were no deaths or serious adverse events (rated grade 3 or higher - وهي الأحداث التي تتطلب تدخلاً طبياً فوراً). While four intervention-related adverse events were observed - three mild and one moderate - these were manageable. A total of 34 sessions were cancelled as a precaution due to temporary health concerns like haemodynamic abnormalities (تشوهات في ديناميكا الدم) or

low blood cell counts (قلة الخلايا).

analyses. (الفعالية الأولية) Perhaps the most encouraging findings came from the preliminary efficacy Researchers observed moderate improvements in several key functional measures. Specifically, patients showed improvements in lower body strength (as measured by the 30-second sit-to-stand test), mobility (assessed using the Timed Up and Go test), and aerobic capacity (evaluated with the 2-minute step test). Nutritional status, assessed using the PG-SGA tool, also showed moderate improvement. Patient-reported outcomes, measured through questionnaires like the EORTC QLQ-C30, HADS, and NCCN Distress However, (الإمساك) Thermometer, revealed some positive changes - particularly a reduction in constipation and financial , (ضيق التنفس), shortness of breath , (الغثيان) there were also reported increases in nausea .worries

دلالات البحث

These initial results are promising. Researchers suggest that a multidisciplinary prehabilitation program is not only safe and feasible for patients undergoing allo-HSCT, but also demonstrates a potential to improve their physical and nutritional status before this challenging procedure. The observed improvements in strength, mobility, and aerobic capacity could translate to better tolerance of the transplant process and potentially .reduce complications

While the increase in reported nausea, dyspnoea, and financial concerns warrants further investigation, the overall balance of findings supports the continued exploration of prehabilitation in this patient population. The researchers emphasize that this was a pilot study, and larger, more rigorous trials are needed to confirm these preliminary findings and determine the optimal design and duration of a prehabilitation program. The data collected in this study will be invaluable in calculating the appropriate sample size for future research. This work, registered with the Australian New Zealand Clinical Trials Registry (ANZCTR) under ID ACTRN12623000052639, represents a significant step towards a more proactive and patient-centered .approach to stem cell transplantation

Reference

Bushaway S. (2025). *Preparing for allogeneic hematopoietic stem cell transplant: a multidisciplinary prehabilitation intervention is safe, feasible and demonstrates preliminary efficacy in acute myeloid leukemia .and myelodysplastic syndromes*. BMC Cancer, 26(1), 94-94

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